

**FIGURE 1**

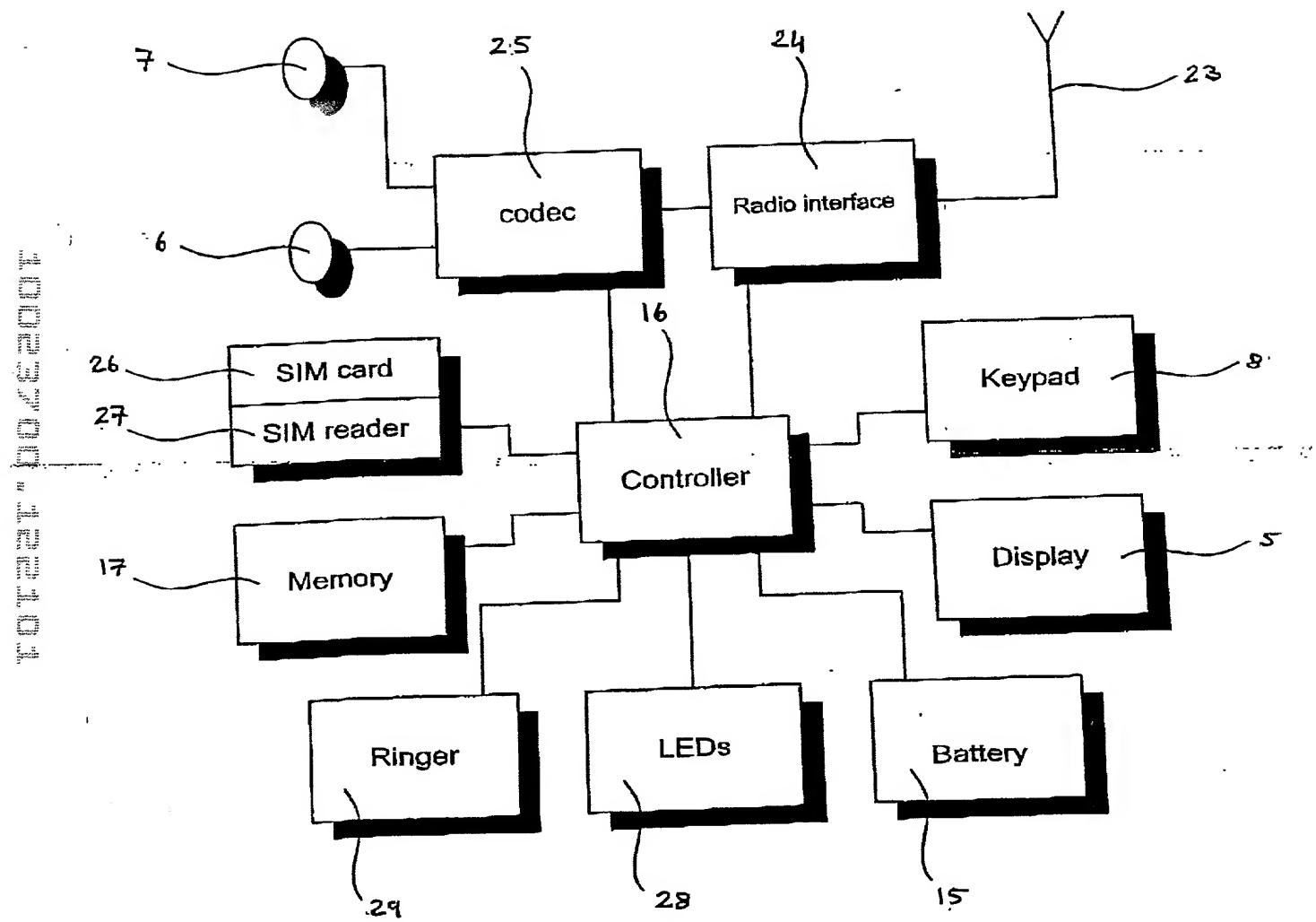


FIGURE 2

## DETAILED ACTION

Amendment filed on January 10, 2003 has been entered. Claims 1-8, 10-12 are pending. The amendment clarifies the content of the claims to the extent that the restriction requirement of Paper No.4 is withdrawn.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

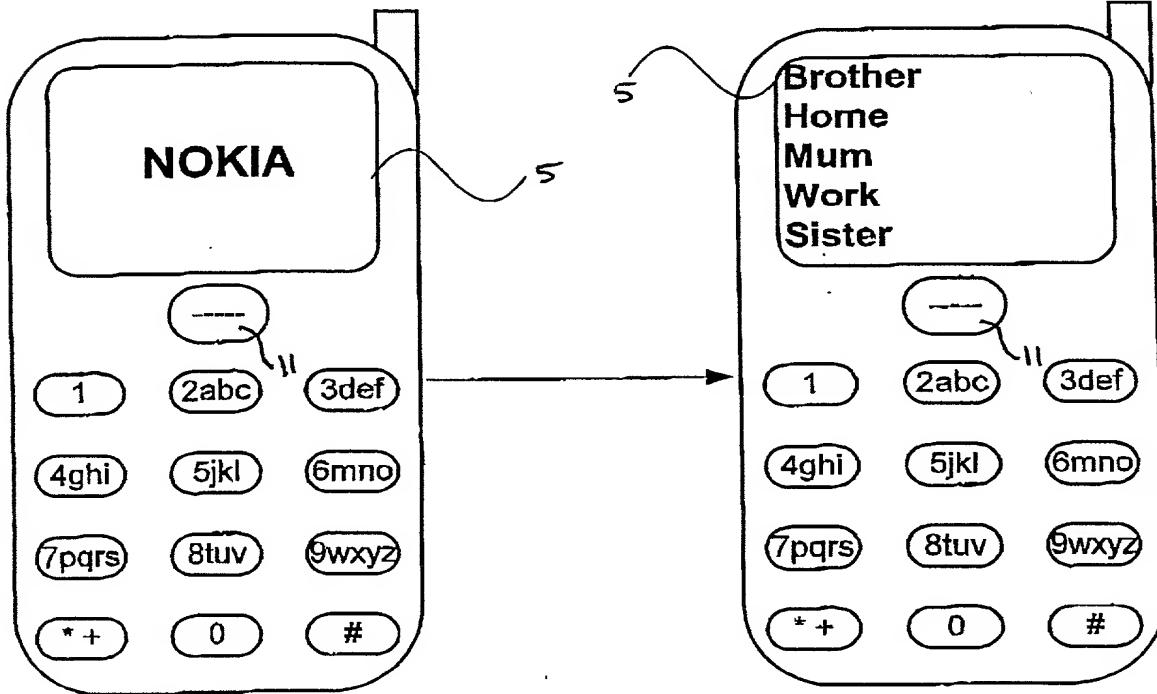


FIGURE 4A

FIGURE 4B

microspheres to neutron beams to product beta-radiation emitting radionuclide of yttrium-90 (col 7, lines 35-37). Accordingly, Gray anticipates the limitations of the instant claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray US Patent 5,885,547 in view of Day US Patent 5,302,369 and Huang US Patent 5,073,404.

The teachings of Gray are discussed above. Gray also teaches the use of other ingredients such as silica in his microspheres (col 4, lines 16-26). Gray fails to explicitly teach oxide crystals consisting essentially of a mixture of Y<sub>2</sub>O<sub>3</sub> and YPO<sub>4</sub> and further coat such microspheres with a film comprising silica.

Day is used to teach that Yttrium can be incorporated into the microspheres in combination with phosphorus (see col 6, lines 40-62). Further, Day indicates that radioactive microspheres can contain silica and/or further be coated with additional coating material to control the leaching of radioactive material (col 1, line 45-col 2, line 14; col 4, lines 1-14; col 5, lines 1-28; col 15, lines 1-62).

Huang is merely used to show the conventional use of silica composition in coating transparent glass microspheres and its potential benefits as antireflective and protective coating (abstract, col 1, lines 53-col 2, line 55).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to use a yttrium phosphate mixture in Gray's composition, as taught by Day, and further coat the microspheres of Gray with a suitable coating material such as silica, because as taught by Day, the ordinary skill in the art would have had a reasonable expectation of success in controlling the leaching of radioactive material from the core composition and further protect the microglasses of Gray.

Further, the methods of employing a silica film on a microspheres of Gray would have also been obvious, because, as taught by Haung, such methods of coating wherein a silica coating is employed is conventionally employed to improve the antireflective and protective properties of microspheres.

### ***Conclusion***

No claims are allowed. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahnam Sharareh whose

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telephone number is 703-306-5400. The examiner can normally be reached on 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, PhD can be reached on 703-308-1877. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4556 for regular communications and 703-308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1123.

ss  
April 4, 2003



RUSSELL TRAVERS  
PRIMARY EXAMINER  
GROUP 1200